

WHAT IS CLAIMED IS:

1. An injectable ultrasound contrast agent comprising:
  - (a) a suspension of gas filled microbubbles or microballoons in a physiologically acceptable aqueous carrier comprising surfactants, additives, and stabilizers, wherein:
    - (b) the gas is a gas mixture of at least two biocompatible gases A and B;
    - (c) gas B is present in an amount of between .5-50% by volume;
    - (d) gas B has a water solubility of not more than about 0.5mM at 25 °C and one atmosphere and an average molecular weight at least about 4 times that of gas A;  
and
    - (e) the balance of the mixture is gas A.